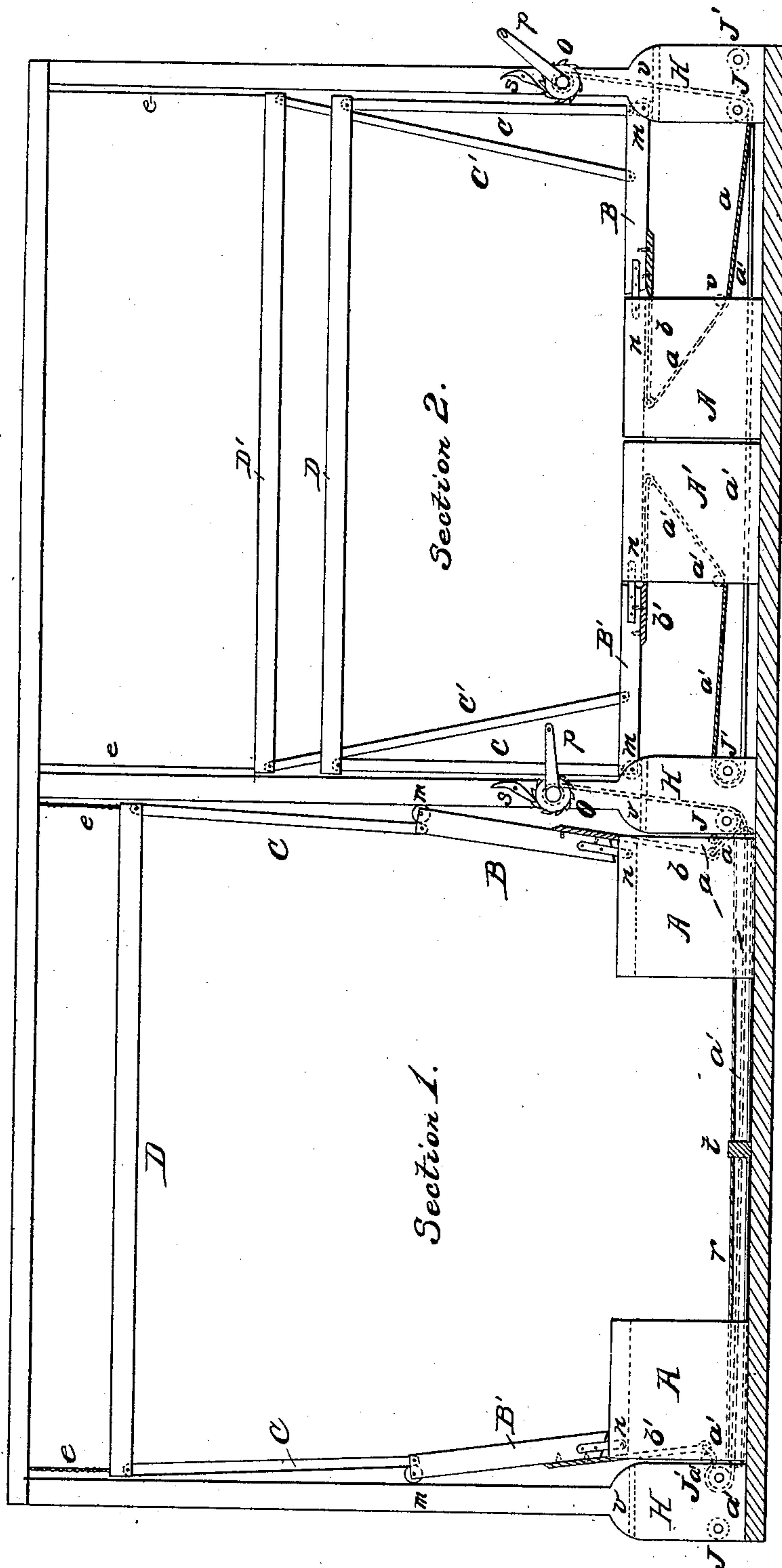


I. W. LAMB.
CAR SEAT AND COUCH.

No. 68,368.

Patented Sept. 3, 1867.



Witnesses:
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Letters Patent No. 68,368, dated September 3, 1867.

IMPROVEMENT IN CAR-SEATS AND COUCHES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ISAAC W. LAMB, (post office address, Northville, Michigan,) have invented a new and useful Improvement in Seats and Couches for Railroad Cars and other uses; and I do hereby declare that the following is such a clear and exact description thereof as will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

Section 1 shows the invention ready for use as seats, and

Section 2 shows the same ready to be used for couches.

The entire drawing is a side elevation of two sections of seats and couches made according to my invention.

Similar letters of reference indicate corresponding parts in both sections.

My invention consists in an improved method of connecting the upper and lower couches, so that both assume the proper position for couches together, and *vice versa*. It also consists in the means employed for changing the whole from one position to the other. It also consists in the method of confining the seats in position to be employed as seats.

A A' represent the seats, having backs, B B', hinged to the same, so that the backs may drop or swing back or down as the seats are moved towards each other, and thus the backs and seats combined form the lower couch, as in sec. 2. D D' is the upper couch, which may be all one, and form a double upper couch, or it may be made in two parts, as in the present case, and the back portion D' so attached to its support as to occupy a higher position when used as a couch than is occupied by the front portion D of the same, and thus form two single couches. C C C' C' are rods or equivalents connecting the upper couch or couches to the backs of the seats, being pivoted at one end to the upper couch or couches, and at the other to the seat-backs B B', as shown. The result of so connecting the upper couch to the seat-backs is, that as the said backs drop back and down into a position to be used for a couch the upper couches will also descend into proper position. In the present case I have made the upper couch in two parts, as will be seen in sec. 2; and in order that both may occupy the same plane when elevated, as in sec. 1, and different planes when lowered, as in sec. 2, I connect the back portion or D' of the upper couch to the seat-backs by rods C', made longer than the rods C, and I then pivot the lower ends of the rods C' just as much nearer the hinges *n* (that connect the seat-backs B B' to the seats A A') as the said rods C' are longer than the rods C. By the arrangement just described (having the rods C' longer than the rods C, and then pivoting the rods C' just so much nearer the hinges *n*), I am enabled to have two upper single berths, and at the same time to have both upper berths elevated to the same plane when the seat-backs are raised, a result that is evidently desirable to be obtained. In a car a portion of the upper couches may be made thus in two parts, and each part be supported by a separate rod, and another portion of the upper couches may be made whole, forming one double couch, so as to give some single and some double upper couches in the same car. H H are frames that separate the sections and support the rollers J J' and the windlass O. *v v v* (shown in dotted lines) are supports or stops to support the backs of the seats B B' when in a horizontal position, as in sec. 2. *b b'* are arms or levers firmly attached to the under or back sides of the seat-backs B B', and extending down or forward under the seats A A', as shown. *o o'* are rollers, or their equivalents, attached under the seats near the floor, but to the frames of the seats. *a a'* are cords connecting the arms or levers *b b'* of the seat-backs to the windlass O. The cord *a'* is attached under the seat to the arm *b'*, and passes under roller *o'*, then around the roller J', then across the section and under roller J, and up to the windlass O. This cord may, if desired, pass around suitable rollers or pulleys up over the upper couch, and along the top of the car and down to the windlass O. The cord *a* passes under rollers *o* and J and up to the windlass O. The windlass O is attached to the frame H in any suitable manner and place, and is provided with a ratchet, as shown, such ratchet being secured, when desired, by the pawl *s*. *m m* are friction-rollers attached to the upper edge of the backs B B', and working against the frame H or its equivalent. Their use will be further shown hereafter. *e e* are curtains hung from the top of the car, and attached to the ends of the upper couch or couches, so that they separate the upper couch of one section from the upper couch of another section when the couches are in use, while, when the couches are elevated, as in sec. 1, the space before closed by such curtains is now open, permitting a free circulation of air through the car. The seats A A' move back and forth on suitable guides, *r*, (shown only in sec. 1,) and the said guides *r* may also form a cover or shield for the cord *a'*.

The method of changing the lower seats into a couch and lowering the upper couch is as follows: The pawl *s* is released and the seats are moved toward each other, when the backs *B B'* will assume the position shown in sec. 2 of the drawing, and the upper couch or couches will descend to their proper position. To change the lower couch back into seats and elevate the upper couch, it is only necessary to turn the crank *p*, and thus wind up the cords *a* and *a'* on the windlass *O*. As the crank is turned the cords *a* and *a'* draw down on the arms *b* and *b'*, and consequently elevate the backs *B B'*. The friction-rollers *m m*, working against the frames *H*, prevent the backs from binding against the said frames *H*. As the crank is turned still farther on, the arms *b b'* come against the rollers *o o'*, or other suitable stops, and then the seats are drawn apart until they assume the position shown in sec. 1. As the arms *b b'* are now against the rollers *o o'*, it is evident that the backs *B B'* are firmly held in an upright position, as such arms prevent their tipping forward. When the seats are drawn apart, as shown in sec. 1, the pawl *s* dropping into the teeth of the ratchet retains the seats in place, as the windlass cannot turn back to release the cords *a a'* wound on it. By the arrangement of the hinged backs *B B'*, the arms *b b'*, and the cords *a* and *a'*, it will be seen that the lower couch may be changed almost instantly into seats. By connecting the upper couch or couches to the seat-backs, as here shown, the said upper couches are raised up out of the way by the same act that changes the lower couch into seats. Thus the whole change is effected with great facility, and a grievous source of annoyance to passengers is removed. The same device, with slight modifications, may be employed on board of vessels, thereby largely increasing the available space for use in the state-rooms.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. I claim the backs *B*, hinged to the seats, and connected by rods to upper movable berths constructed and arranged as described.
2. The arms *b b'*, in combination with the movable backs, as and for the purpose set forth.
3. In combination with the arms *b b'* and backs, I claim the arrangement of cords, rollers, and pulleys, for the purpose set forth.
4. I claim the stops *o o'*, in combination with the seat-frame and arms *b b'*.
5. I claim the upper couches *D D'*, attached to the seat-backs by long and short rods, all constructed and arranged as described, and for the purpose set forth.
6. In combination with the upper couches, supported and operated as described, I claim the curtains *e e*, as and for the purpose set forth.

ISAAC W. LAMB.

Witnesses:

EMMA SEVERANCE,
T. E. JOHNS.